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      1985:15038456
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      Structure and function of factor IX: Defects in haemophilia B
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ΑU
      McGraw R.A.; Davis L.M.; Lundblad R.L.; et al.
CS
      Department of Pathology, University of North Carolina, Chapel Hill, NC
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27514, United States.

SO Clinics in Haematology, (1985), 14/2 (359-383)

CODEN: CLHMB3

DT Journal; Article

CY United Kingdom

LA English

AΒ The genetics of haemophilia B and the structure-function relationships of factor IX interactions with cofactors and substrates have been reviewed. Emphasis has been placed on contributions to our understanding made by analysis of variants. Amino acid substitutions at or near the site of activation lead to inactive factor IX or to factor IX species with decreased clotting activity. Release of the activation peptide is necessary for optimal interaction of factor IX with its cofactors and substrates. Abnormalities in the calcium binding region, whether Gla dependent or independent, also decrease clotting activity. The defects in haemophilia B(m) variants somehow affect factor VII-tissue factor interactions with factor X. Other mutations may affect the facotor IX heavy chain, probably at or near the active site. Amino acid substitutions may cause conformational changes in factor IX that interfere with other interactions such as with antithrombin III and factor VIII. Recombinant DNA techniques have been employed to analyse normal and abnormal factor IX genes. DNA sequence analysis of factor IX cDNA clones revealed the primary structure of the mature protein and a predicted leader peptide. Knowledge of the primary sequence of factor IX allowed identification of the specific defect in the factor IX (Chapel Hill) variant. Analysis of normal factor IX genomic clones has determined that the 35 kb gene is composed of eight coding exons and seven interventing sequences. Sequence analysis of the CRM.sup.+ variants will identify mutations disrupting the normal interactions of factor IX. Southern analysis of CRM.sup. - variants has revealed gross factor IX gene deletions in some cases. Such deletions have been employed for carrier deletion in some families. Restriction fragment length polymorphisms in the factor IX gene have also proven useful for carrier identification. Manipulations of the cloned factor IX gene to make specific mutations in vitro and improvements in the technology for expression of deliberately modified genes will further elucidate the relationships between factor IX structure and function.

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- AN 85188456 EMBASE
- DN 1985188456
- TI Structure and function of factor IX: Defects in haemophilia B.
- AU McGraw R.A.; Davis L.M.; Lundblad R.L.; et al.
- CS Department of Pathology, University of North Carolina, Chapel Hill, NC 27514, United States
- SO Clinics in Haematology, (1985) 14/2 (359-383).

CODEN: CLHMB3

- CY United Kingdom
- DT Journal
- FS 037 Drug Literature Index

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022 Human Genetics

029 Clinical Biochemistry

LA English

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AN 86003005 MEDLINE

DN PubMed ID: 3899439

TI Structure and function of factor IX: defects in haemophilia B.

AU McGraw R A; Davis L M; Lundblad R L; Stafford D W; Roberts H R

NC HL 06350 (NHLBI) HL 07149 (NHLBI)

SO Clinics in haematology, (1985 Jun) 14 (2) 359-83. Ref: 64 Journal code: 0331547. ISSN: 0308-2261.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)

LA English

FS Priority Journals

EM 198511

ED Entered STN: 19900321 Last Updated on STN: 19990129 Entered Medline: 19851113

The genetics of haemophilia B and the structure-function relationships of AB factor IX interactions with cofactors and substrates have been reviewed. Emphasis has been placed on contributions to our understanding made by analysis of variants. Amino acid substitutions at or near the site of activation lead to inactive factor IX or to factor IX species with decreased clotting activity. Release of the activation peptide is necessary for optimal interaction of factor IX with its cofactors and substrates. Abnormalities in the calcium binding region, whether Gla independent or dependent, also decrease clotting activity. The defects in haemophilia Bm variants somehow affect factor VII-tissue factor interactions with factor X. Other mutations may affect the factor IX heavy chain, probably at or near the active site. Amino acid substitutions may cause conformational changes in factor IX that interfere with other interactions such as with antithrombin III and factor VIII. Recombinant DNA techniques have been employed to analyse normal and abnormal factor IX genes. DNA sequence analysis of factor IX cDNA clones revealed the primary structure of the mature protein and a predicted leader peptide. Knowledge of the primary sequence of factor IX allowed identification of the specific defect in the factor IX Chapel Hill variant. Analysis of normal factor IX genomic clones has determined that the 35 kb gene is composed of eight coding exons and seven intervening sequences. Sequence analysis of the CRM+ variants will identify mutations

disrupting the normal interactions of factor IX. Southern analysis of CRM- variants has revealed gross factor IX gene deletions in some cases. Such deletions have been employed for carrier deletion in some families. Restriction fragment length polymorphisms in the factor IX gene have also proven useful for carrier identification. Manipulations of the cloned factor IX gene to make specific mutations in vitro and improvements in the technology for expression of deliberately modified genes will further elucidate the relationships between factor IX structure and function.

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       Continuation of Ser. No. US 1998-16403, filed on 30 Jan 1998, GRANTED,
       Pat. No. US 5968897 Division of Ser. No. US 1995-469301, filed on 6 Jun
       1995, GRANTED, Pat. No. US 5837679 Division of Ser. No. US 1994-268003,
       filed on 29 Jun 1994, GRANTED, Pat. No. US 5583107 Continuation-in-part
       of Ser. No. US 1994-249777, filed on 26 May 1994, GRANTED, Pat. No. US
       5597799 Continuation of Ser. No. US 1991-808329, filed on 16 Dec 1991,
       ABANDONED Continuation-in-part of Ser. No. US 1990-578646, filed on 4
       Sep 1990, GRANTED, Pat. No. US 5278144
DT
       Utility
FS
       APPLICATION
LREP
       MILLENNIUM PHARMACEUTICALS, INC., 40 Landsdowne Street, CAMBRIDGE, MA,
       02139
       Number of Claims: 5
CLMN
ECL
       Exemplary Claim: 1
DRWN
       15 Drawing Page(s)
LN.CNT 2150
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AΒ
       Analogs of blood factors which are transiently inactive are useful in
       treatment of diseases characterized by thrombosis. In addition,
       modified forms of activated blood factors that generate the active blood
       factor in serum but have extended half-lives are useful in treating
       hemophilic conditions. These modified forms of the blood factor may be
       acylated forms which are slowly deacylated in vivo.
L6
     ANSWER 2 OF 20 USPATFULL on STN
AN
       2004:57926 USPATFULL
TI
       Liquid composition of modified factor VII polypeptides
IN
       Hansen, Birthe Lykkegaard, Vaerlose, DENMARK
       Jensen, Michael Bech, Allerod, DENMARK
       Kornfelt, Troels, Virum, DENMARK
PΙ
       US 2004043933
                          A1
                               20040304
ΑI
       US 2003-602340
                          A1
                               20030623 (10)
       Continuation-in-part of Ser. No. WO 2002-DK894, filed on 20 Dec 2002,
RLI
       UNKNOWN
      DK 2001-1948
PRAI
                           20011221
```

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DK 2001-1949
                            20011221
        US 2002-346888P
                            20020107 (60)
                           20020107 (60)
        US 2002-346399P
 DT
        Utility
 FS
        APPLICATION
 LREP
        Reza Green, Esq., Novo Nordisk Pharmaceuticals, Inc., 100 College Road
        West, Princeton, NJ, 08540
 CLMN
        Number of Claims: 29
 ECL
        Exemplary Claim: 1
 DRWN
        No Drawings
 LN.CNT 1155
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
        The invention provides a liquid, aqueous composition, comprising (i) a
 AB
        modified factor VII polypeptide; (ii) an agent suitable for keeping pH
        in the range of from about 4.0 to about 8.0; (iii) an antioxidant; and
        (iv) an agent selected from the list of: a calcium salt, a magnesium
        salt, or a mixture thereof.
 L6
     ANSWER 3 OF 20 USPATFULL on STN
 AN
        2004:205829 USPATFULL
 TΙ
        Stable blood coagulation inhibitor-free factor vii preparation and
        method for preparing same
        Matthiessen, Peter, Vienna, AUSTRIA
 IN
        Turecek, Peter, Klosterneuburg, AUSTRIA
        Schwarz, Hans-Peter, Vienna, AUSTRIA
 PΑ
        Baxter Aktiengesellschaft, Vienna, AUSTRIA (non-U.S. corporation)
 PΙ
       US 6777390
                           В1
                               20040817
       WO 9966031 19991223
       US 2001-719945
AΙ
                                20010220 (9)
       WO 1999-AT154
                                19990614
PRAI
       AT 1998-1043
                           19980617
DT
       Utility
FS
       GRANTED
EXNAM
       Primary Examiner: Carlson, Karen Cochrane; Assistant Examiner: Snedden,
       Sheridan
LREP
       Heller Ehrman White & McAuliffe LLP
CLMN
       Number of Claims: 27
ECL
       Exemplary Claim: 1
DRWN
       0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 624
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       Stable pharmaceutical preparations containing blood coagulation Factor
AB
       VII is disclosed. The pharmaceutical preparations containing blood
       coagulation Factor VII are free of coagulation inhibitors and are stable
       over a wide range of environmental conditions. Also provided are blood
       coagulation Factor VII preparations having a minimum activity of 50
       Units/mg of protein that contain less than 5% activated blood
       coagulation Factor VII (Factor VIIa). The blood coagulation Factor VII
       containing preparations may also contain other blood coagulation factors
       and are free from detectable transmissible human pathogens.
L6
     ANSWER 4 OF 20 USPATFULL on STN
AN
       2003:258328 USPATFULL
ΤI
       Factor X analogues having a modified protease cleavage site
IN
       Himmelspach, Michele, Leopoldsdorf, AUSTRIA
       Schlokat, Uwe, Orth/Donau, AUSTRIA
       Dorner, Friedrich, Vienna, AUSTRIA
       Fisch, Andreas, St. Gallen, SWITZERLAND
       Eibl, Johann, Vienna, AUSTRIA
PΙ
       US 2003181381
                        A1
                               20030925
       US 2003-407123
ΑI
                               20030404 (10)
                        A1
      Division of Ser. No. US 1999-367791, filed on 12 Nov 1999, GRANTED, Pat.
RLI
```

No. US 6573071 A 371 of International Ser. No. WO 1998-AT45, filed on 27

```
Feb 1998, UNKNOWN
 PRAI
        AT 1997-335
                             19970227
 DT
        Utility
 FS
        APPLICATION
        TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH
 LREP
        FLOOR, SAN FRANCISCO, CA, 94111-3834
 CLMN
        Number of Claims: 51
 ECL
        Exemplary Claim: 1
        13 Drawing Page(s)
 DRWN
 LN.CNT 2349
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
        Factor X analogues having a modification in the region of the natural
        Factor Xa activation cleavage site, said modification representing a
        processing site of a protease not naturally cleaving in this region of
        the Factor X sequence, preparations containing the Factor X analogues
        according to the invention, and processes for the preparation thereof
        are described.
      ANSWER 5 OF 20 USPATFULL on STN
 L6
        2003:200929 USPATFULL
 AN
 TI
        Factor X deletion mutants and analogues thereof
 IN
        Himmelspach, Michele, Leopoldsdorf, AUSTRIA
        Pfleiderer, Michael, Darmstadt, GERMANY, FEDERAL REPUBLIC OF
        Falkner, Falko-Guenter, Orth/Donau, AUSTRIA
        Eibl, Johann, Vienna, AUSTRIA
        Dorner, Friedrich, Vienna, AUSTRIA
        Schlokat, Uwe, Orth/Donau, AUSTRIA
        US 2003138914
 PΙ
                         A1
                                20030724
ΑI
        US 2003-348504
                                20030121 (10)
                          Α1
       Division of Ser. No. US 1999-367777, filed on 18 Nov 1999, GRANTED, Pat.
RLI
       No. US 6562598 A 371 of International Ser. No. WO 1998-AT46, filed on 27
        Feb 1998, UNKNOWN
       AT 1997-336
PRAI
                            19970227
DT
       Utility
FS
       APPLICATION
LREP
       TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH
       FLOOR, SAN FRANCISCO, CA, 94111-3834
CLMN
       Number of Claims: 45
ECL
       Exemplary Claim: 1
DRWN
       12 Drawing Page(s)
LN.CNT 2232
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       Factor X\Delta analogues having a deletion of amino acids Arg180 to
       Arg234 and a modification in the region of the amino acid sequence
       between Gly173 and Arg179, preparations containing these factor X\Delta
       analogues, and processes for the preparation thereof are described.
     ANSWER 6 OF 20 USPATFULL on STN
L6
AN
       2003:148878 USPATFULL
TΙ
       Factor X analogues with a modified protease cleavage site
IN
       Himmelspach, Michele, Leopoldsdorf, AUSTRIA
       Schlokat, Uwe, Orth/Donau, AUSTRIA
       Dorner, Friedrich, Vienna, AUSTRIA
       Fisch, Andreas, St. Gallen, SWITZERLAND
       Eibl, Johann, Vienna, AUSTRIA
       Baxter Aktiengesellschaft, Vienna, AUSTRIA (non-U.S. corporation)
PA
PΙ
       US 6573071
                          В1
                               20030603
       WO 9838317 19980903
ΑI
       US 1999-367791
                               19991112 (9)
       WO 1998-AT45
                               19980227
PRAI
       AT 1997-335
                           19970227
DT
       Utility
FS
       GRANTED
```

```
EXNAM Primary Examiner: Low, Christopher S. F.; Assistant Examiner: Schnizer,
        Holly
 LREP
        Townsend and Townsend and Crew, L.L.P.
 CLMN
        Number of Claims: 64
 ECL
        Exemplary Claim: 1
 DRWN
        13 Drawing Figure(s); 13 Drawing Page(s)
 LN.CNT 2472
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
        Factor X analogues having a modification in the region of the natural
        Factor Xa activation cleavage site, said modification representing a
        processing site of a protease not naturally cleaving in this region of
        the Factor X sequence, preparations containing the Factor X analogues
        according to the invention, and processes for the preparation thereof
        are described.
      ANSWER 7 OF 20 USPATFULL on STN
 L6
 ΑN
        2003:129813 USPATFULL
        Factor X deletion mutants and analogues thereof
 TI
 IN
        Himmelspach, Michele, Leopoldsdorf, AUSTRIA
        Pfleiderer, Michael, Darmstadt, GERMANY, FEDERAL REPUBLIC OF
        Falkner, Falko-Guenter, Orth/Donau, AUSTRIA
        Eibl, Johann, Vienna, AUSTRIA
        Dorner, Friedrich, Vienna, AUSTRIA
        Schlokat, Uwe, Orth/Donau, AUSTRIA
        Baxter Aktiengesellschaft, Vienna, AUSTRIA (non-U.S. corporation)
 PA
 ΡI
        US 6562598
                           В1
                               20030513
        WO 9838318 19980903
 ΑI
        US 1999-367777
                                19991118 (9)
        WO 1998-AT46
                                19980227
 PRAI
       AU 1997-336
                           19970227
 DT
       Utility
FS
       GRANTED
EXNAM Primary Examiner: Carlson, Karen Cochrane; Assistant Examiner: Snedden,
       Sheridan
       Townsend and Townsend and Crew LLP
LREP
       Number of Claims: 56
CLMN
ECL
       Exemplary Claim: 1
DRWN
       15 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 2334
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       Factor X\Delta analogues are provided, as well as pharmaceutical
       preparations containing such analogues and methods of preparing such
       analogues. The factor X\Delta analogues have a deletion of the amino
       acids Arg180 to Arg234 and a modification in the region of the amino
       acid sequence between Gly173 and Arg179 of the factor X amino acid
       sequence. Such analogues can include a processing site not normally
       present in factor X, thus allowing for selective conversion of the
       analogue to an active form. The analogues and preparations have utility
       in the treatment of a number of blood coagulation disorders.
     ANSWER 8 OF 20 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on
L6
     STN
                                                        DUPLICATE 1
AN
     2003:68367 BIOSIS
DN
     PREV200300068367
    Methods for treating hemophilia A and B and AIDS and devices used therein.
TI
     Pollard, Harvey B. [Inventor, Reprint Author]; Pollard, Bette S.
ΑU
     1008 Lamplighter La., Potomac, MD, 20854, USA
CS
    US 6491655 December 10, 2002
ΡI
    Official Gazette of the United States Patent and Trademark Office Patents,
     (Dec 10 2002) Vol. 1265, No. 2. http://www.uspto.gov/web/menu/patdata.html
     . e-file.
```

ISSN: 0098-1133 (ISSN print).

- DT Patent
- LA English
- ED Entered STN: 29 Jan 2003 Last Updated on STN: 29 Jan 2003
- The present invention provides a method for treating Hemophilia A or B which comprises implanting in fluid communication with the bloodstream of a mammal in need of such treatment a permeable membrane having one or more walls, a hollow chamber therewithin, a plurality of holes extending through the walls of the membrane and permitting fluid to enter and exit the chamber of the membrane, each of the holes being sized so that it is large enough to permit inactive Factor VII to enter the chamber of the membrane and activated Factor VIIa to exit the chamber of the membrane but small enough to prevent fibrinogen from entering the chamber of the membrane, a plurality of supports being disposed within the chamber, and an effective amount of a Factor VII activator or a source of the activator being bound to the supports, wherein inactive factor VII in blood passing through the membrane becomes activated into Factor VIIa upon contact with the activator within the chamber. The present invention also provides a

membrane becomes activated into Factor VIIa upon contact with the activator within the chamber. The present invention also provides a method for treating Hemophilia A or B extracorporeally. The present invention further provides methods for treating AIDS as well as permeable membranes for use in the methods above.

- L6 ANSWER 9 OF 20 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN DUPLICATE 2
- AN 2001:332578 BIOSIS
- DN PREV200100332578
- TI Method for treating hemophilia A and B and AIDS and devices used therein.
- AU Pollard, Harvey B. [Inventor]; Pollard, Bette S. [Inventor, Reprint author]
- CS 11008 Lamplighter La., Potomac, MD, 20854, USA
- PI US 6174299 January 16, 2001
- Official Gazette of the United States Patent and Trademark Office Patents, (Jan. 16, 2001) Vol. 1242, No. 3. e-file.
  CODEN: OGUPE7. ISSN: 0098-1133.
- DT Patent
- LA English
- ED Entered STN: 11 Jul 2001 Last Updated on STN: 19 Feb 2002
- AB The present invention provides a method for treating Hemophilia A or B which comprises implanting in fluid communication with the bloodstream of a mammal in need of such treatment a permeable membrane having one or more walls, a hollow chamber therewithin, a plurality of holes extending through the walls of the membrane and permitting fluid to enter and exit the chamber of the membrane, each of the holes being sized so that it is large enough to permit inactive Factor VII to enter the chamber of the membrane and activated Factor VIIa to exit the chamber of the membrane but small enough to prevent fibrinogen from entering the chamber of the membrane, a plurality of supports being disposed within the chamber, and an effective amount of a Factor VII activator or a source of the activator being bound to the supports, wherein inactive

Factor VII in blood passing through the

membrane becomes activated into Factor VIIa upon contact with the activator within the chamber. The present invention also provides a method for treating Hemophilia A or B extracorporeally. The present invention further provides methods for treating AIDS as well as permeable membranes for use in the methods above.

- L6 ANSWER 10 OF 20 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN DUPLICATE
- AN 2000:30807370 BIOTECHNO
- TI Technology evaluation: AAV factor IX gene therapy, Avigen Inc
- AU Fabb S.A.; Dickson J.G.

CS S.A. Fabb, Department of Biochemistry, Royal Holloway College, University of London, Egham, Surrey TW20 OEX, United Kingdom. E-mail: s.fabb@rhbnc.ac.uk

Current Opinion in Molecular Therapeutics, (2000), 2/5 (601-606), 12 reference(s)

CODEN: CUOTFO ISSN: 1464-8431

Journal; General Review

CY United Kingdom

LA English

SL English

DT

AB Gene therapy vectors encoding native and mutant Factor IX sequences for the treatment of hemophilia are claimed. Factor

IX is in the blood clotting cascade in humans and is missing or inactive in patients with hemophilia B. Recombinant AAV vectors containing the cDNA for Factor IX together with a portion of the intron 1 of this gene are claimed. Various mutant forms of the Factor IX protein such as those which have the ability to bind to human collagen IV are also claimed. The AAV constructs can be injected directly into muscle tissue in at least six sites to achieve their effect. The human Factor IX coding sequences are placed into an AAV vectors under the expression control of the CMV promoter/enhancer. The AAV construct also contains a 1.4 kb fragment of intron 1 of the Factor IX gene. The Factor IX coding sequence is followed by the SV40 polyadenylation sequence and flanked by the AAV ITR sequences. Recombinant virus of 10.sup.1.sup.2 to 10.sup.1.sup.3 genomes/ml was used to inject into mice at a concentration of 10.sup.1.sup.1 or 10.sup.1.sup.0 viral genomes per animal. The injections were in the tibialis anterior and the quadriceps muscle. The human Factor IX was expressed and circulating antibodies were detected. Dogs carrying a mutation in the Factor IX gene which gave them hemophilia B were administered AAV constructs containing dog Factor IX and these showed significantly reduced clotting times.

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ANSWER 11 OF 20 IFIPAT COPYRIGHT 2004 IFI on STN DUPLICATE 4
```

AN 03153227 IFIPAT; IFIUDB; IFICDB

TI METHODS FOR TREATING HEMOPHILIA A AND B AND AIDS AND DEVICES USED THEREIN

INF Pollard; Harvey B., 11008 Lamplighter La., Potomac, MD, 20854

IN Pollard Harvey B

PAF Unassigned

PA Unassigned Or Assigned To Individual (68000)

EXNAM Bockelman, Mark

AG Lambert, Esq., Dennis H.

PI US 5908399 A 19990601

AI US 1996-772034 19960926

XPD 26 Sep 2016

FI US 5908399 19990601

DT Utility; REASSIGNED; EXPIRED

FS MECHANICAL

GRANTED

MRN 009928 MFN: 0849

CLMN 30

GI 9 Drawing Sheet(s), 11 Figure(s).

The present invention provides a method for treating Hemophilia A or B which comprises implanting in fluid communication with the bloodstream of a mammal in need of such treatment a permeable membrane having one or more walls, a hollow chamber therewithin, a plurality of holes extending through the walls of the membrane and permitting fluid to enter and exit the chamber of the membrane, each of the holes being sized so that it is large enough to permit inactive Factor VII to enter the chamber of the membrane and activated Factor VIIa to exit the chamber of the membrane but small enough to prevent fibrinogen from entering the chamber of the membrane, a plurality of supports being disposed within the chamber, and an effective amount of a Factor VII activator or a source of the activator being bound to the supports, wherein

## inactive Factor VII in blood

passing through the membrane becomes activated into Factor VIIa upon contact with the activator within the chamber. The present invention also provides a method for treating Hemophilia A or B extracorporeally. The present invention further provides methods for treating AIDS as well as permeable membranes for use in the methods above.

```
ANSWER 12 OF 20 USPATFULL on STN
 L6
 ΑN
        1999:151182 USPATFULL
 ΤI
        Agents affecting thrombosis and hemostasis
 IN
        Wolf, David L., Palo Alto, CA, United States
        Sinha, Uma, San Francisco, CA, United States
        COR Therapeutics Inc., South San Francisco, CA, United States (U.S.
 PΑ
        corporation)
 PΙ
        US 5990079
                                19991123
 ΑI
        US 1998-16400
                                19980130 (9)
        Continuation of Ser. No. US 1995-469301, filed on 6 Jun 1995, now
 RLI
        patented, Pat. No. US 5837679 which is a division of Ser. No. US
        1994-268003, filed on 29 Jun 1994, now patented, Pat. No. US 5583107
        which is a continuation-in-part of Ser. No. US 1994-249777, filed on 26
        May 1994, now patented, Pat. No. US 5597799 which is a continuation of
        Ser. No. US 1991-808329, filed on 16 Dec 1991, now abandoned which is a
        continuation-in-part of Ser. No. US 1990-578646, filed on 4 Sep 1990,
        now patented, Pat. No. US 5278144
 DT
        Utility
 FS
        Granted
 EXNAM Primary Examiner: Degen, Nancy
 LREP
        Morgan, Lewis & Bockius LLP
 CLMN
        Number of Claims: 16
 ECL
        Exemplary Claim: 1
DRWN
        24 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 1981
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       Analogs of blood factors which are transiently inactive are useful in
ΔR
       treatment of diseases characterized by thrombosis. In addition,
       modified forms of activated blood factors that generate the active blood
       factor in serum but have extended half-lives are useful in treating
       hemophilia conditions. These modified forms of the blood factor may be
       acylated forms which are slowly deacylated in vivo.
L6
     ANSWER 13 OF 20 USPATFULL on STN
AN
       1999:128656 USPATFULL
TI
       Factor IX -- polymeric conjugates
       Hallahan, Terrence W., 82 Hazelwood Ave., Metuchen, NJ, United States
IN
       Gilbert, Carl W., 26 Hampton Ct., Basking Ridge, NJ, United States
       07920
       US 5969040
PΙ
                               19991019
ΑI
       US 1996-766288
                               19961213 (8)
       Division of Ser. No. US 1993-73531, filed on 8 Jun 1993, now patented,
RLI
       Pat. No. US 5621039
DT
       Utility
FS
       Granted
EXNAM Primary Examiner: Nutter, Nathan M.
LREP
      Galgano & Burke
      Number of Claims: 9
CLMN
ECL
      Exemplary Claim: 1
DRWN
       1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 526
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
      Conjugates containing a substance with coagulant activity, such as
      recombinant Factor IX, non-antigenic polymers, such as poly(ethylene
```

glycol), are disclosed. Also disclosed are methods of forming the novel

conjugates of this invention.

```
L6
       ANSWER 14 OF 20 USPATFULL on STN
 AN
        1999:128513 USPATFULL
 ΤI
        Agents affecting thrombosis and hemostasis
 TM
        Wolf, David L., Palo Alto, CA, United States
        Sinha, Uma, San Francisco, CA, United States
        COR Therapeutics, Inc., South San Francisco, CA, United States (U.S.
 PA
        corporation)
 PΙ
        US 5968897
                                 19991019
 ΑI
        US 1998-16403
                                 19980130 (9)
        Continuation of Ser. No. US 1995-469301, filed on 6 Jun 1995, now
 RLI
        patented, Pat. No. US 5837679 which is a division of Ser. No. US
        1994-268003, filed on 29 Jun 1994, now patented, Pat. No. US 5583107
        which is a continuation-in-part of Ser. No. US 1994-249777, filed on 26
        May 1994, now patented, Pat. No. US 5597799 which is a continuation of
        Ser. No. US 1991-808329, filed on 16 Dec 1991, now abandoned which is a
        continuation-in-part of Ser. No. US 1990-578646, filed on 4 Sep 1990,
        now patented, Pat. No. US 5278144
 DT
        Utility
 FS
        Granted
 EXNAM
        Primary Examiner: Degen, Nancy
        Morgan, Lewis & Bockius LLP
 LREP
 CLMN
        Number of Claims: 18
 ECL
        Exemplary Claim: 1
 DRWN
        24 Drawing Figure(s); 15 Drawing Page(s)
 LN.CNT 1908
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
        Analogs of blood factors which are transiently inactive are useful in
 AΒ
        treatment of diseases characterized by thrombosis. In addition,
        modified forms of activated blood factors that generate the active blood
        factor in serum but have extended half-lives are useful in treating
       hemophilic conditions. These modified forms of the blood factor may be
        acylated forms which are slowly deacylated in vivo.
     ANSWER 15 OF 20 USPATFULL on STN
L6
        1998:144079 USPATFULL
AN
TI
       Agents affecting thrombosis and hemostasis
IN
       Wolf, David L., Palo Alto, CA, United States
       Sinha, Uma, San Francisco, CA, United States
       COR Therapeutics, Inc., South San Francisco, CA, United States (U.S.
PΑ
       corporation)
PΙ
       US 5837679
                                19981117
AΙ
       US 1995-469301
                                19950606 (8)
       Division of Ser. No. US 1994-268003, filed on 29 Jun 1994, now patented,
RLI
       Pat. No. US 5583107 which is a continuation-in-part of Ser. No. US
       1994-249777, filed on 26 May 1994, now patented, Pat. No. US 5597799
       which is a continuation of Ser. No. US -808329 which is a
       continuation-in-part of Ser. No. US 1990-578646, filed on 4 Sep 1990,
       now patented, Pat. No. US 5278144
DT
       Utility
FS
       Granted
      Primary Examiner: Fleisher, Mindy; Assistant Examiner: Degen, Nancy J.
EXNAM
LREP
       Morrison & Foerster LLP
CLMN
       Number of Claims: 46
ECL
       Exemplary Claim: 1
       23 Drawing Figure(s); 15 Drawing Page(s)
DRWN
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
      Analogs of blood factors which are transiently inactive are useful in
AB
       treatment of diseases characterized by thrombosis. In addition,
      modified forms of activated blood factors that generate the active blood
       factor in serum but have extended half-lives are useful in treating
```

hemophilic conditions. These modified forms of the blood factor may be acylated forms which are slowly deacylated in vivo.

```
ANSWER 16 OF 20 USPATFULL on STN
  ΑN
           97:31760 USPATFULL
  ΤI
           Factor IX- polymeric conjugates
           Hallahan, Terrence W., 82 Hazelwood Ave., Metuchen, NJ, United States
  ΙN
           Gilbert, Carl W., 26 Hampton Ct., Basking Ridge, NJ, United States
           07920
  PΙ
           US 5621039
                                         19970415
  ΑI
          US 1993-73531
                                         19930608 (8)
  DT
          Utility
  FS
          Granted
  EXNAM Primary Examiner: Mullis, Jeffrey C.
  LREP
          Galgano & Burke
  CLMN
          Number of Claims: 9
  ECL
          Exemplary Claim: 1
  DRWN
          1 Drawing Figure(s); 1 Drawing Page(s)
  LN.CNT 636
  CAS INDEXING IS AVAILABLE FOR THIS PATENT.
          Conjugates containing a substance with coagulant activity, such as
          recombinant Factor IX, non-antigenic polymers, such as poly(ethylene
          glycol), are disclosed. Also disclosed are methods of forming the novel
          conjugates of this invention.
       ANSWER 17 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
 1.6
 AN
       1997:744 CAPLUS
 DN
       126:84595
 TI
       Agents affecting thrombosis and hemostasis
       Wolf, David L.; Sinha, Uma
 IN
 PA
       Cor Therapeutics, Inc., USA
 SO
       U.S., 33 pp., Cont.-in-part of U.S. Ser. No. 249,777.
       CODEN: USXXAM
 DT
       Patent
 LΑ
       English
 FAN.CNT 3
       PATENT NO.
                            KIND
                                         DATE
                                                     APPLICATION NO.
                               ----
      A 19961210 US 1994-268003
US 5278144 A 19940111 US 1990-578646
JP 2002234899 A2 20020823 JP 2001-395485
US 5597799 A 19970128 US 1994-249777
US 5635481 A 19970603 US 1995-467339
US 5650314 A 19970722 US 1995-470807
US 5837679 A 19981117 US 1995-469301
US 5795863 A 19980818 US 1995-487037
CA 2190642 AA 19960111 CA 1995-2190642
WO 9600577 A1 19960111
                                         -----
                                                       -----
                                        19961210 US 1994-268003 19940629
19940111 US 1990-578646 19900904
 PΙ
                                                                                  19910904
                                                                                   19940526
                                                                                   19950606
                                                                                   19950606
                                                                                    19950606
                                                                                    19950607
                                                                                    19950628
                               A1 19960111 WO 1995-US8368
                                                                                   19950628
            W: AU, CA, JP, MX
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Analogs of **blood** factors, such as **factor X**, which are transiently **inactive** are useful in **treatment** of diseases characterized by thrombosis. In addition, modified forms of activated blood factors that generate the active blood factor in serum but have extended half-lives are useful in treating hemophilic conditions. These modified forms of the blood factor may be acylated forms which are slowly deacylated in vivo.

L6 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1988:118953 CAPLUS

DN 108:118953

TI Purification of blood coaguation factor IX for **treatment** of hemophilia

IN Nishimaki, Hideo; Kameyama, Matsuhisa; Nakamura, Yukihiko; Iga, Yoshiro; Suyama, Tadakazu

PA Green Cross Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp. CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PRAI	JP 62201824 JP 1986-44941	A2	19870905 19860228	JP 1986-44941	19860228

AB Inactive blood coagulation factor IX

(I) is prepared free of active blood coagulation factors II, VII, IX, and X. Normally, I is a mixture of blood coagulation factors II, VII, IX, and X in active forms as well as in inactive forms, and the active factors are not desirable in clin. use, and, therefore, eliminated by treating I with insol. materials containing immobilized aminobenzamidine, aminophenylguanidine, or basic amino acids. I consisting of blood coagulation factor IX 1044, factor II 1166, factor VII 222, and factor X 492 units were dissolved in 40 mL of 1.5% by weight/volume NaCl-0.5% by weight/volume Na citrate (pH 7.0) and mixed with 2 g of benzamidine-sepharose 6B which had been equilibrated with the same solution. The mixture was stirred at 4° for 1 h and centrifuged. The supernatant contained I free of active coagulation factors.

- L6 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
- AN 1976:537224 CAPLUS
- DN 85:137224
- TI Proteins induced by vitamin K antagonists (PIVKAs)
- AU Lindhout, M. J.; Kop-Klaassen, B. H. M.
- CS Dep. Biochem., Maastricht Med. Fac., Maastricht, Neth.
- Boerhaave Series for Postgraduate Medical Education (1975), 10(Prothrombin Relat. Coagulation Factors), 274-88
  CODEN: BSPEDP; ISSN: 0304-9167
- DT Journal
- LA English
- AB Using immunodiffusion tests, blood coagulation factor IX [9001-28-9] and blood coagulation factor X [9001-29-0] had common antigenic determinants with the inactive precursors, PIVKA-IX and PIVKA-X, which are induced by vitamin K antagonists. However, the PIVKA's had a lower affinity for Al (OH) 3 than factors IX and X, a phenomenon probably related to the lack of Ca-binding sites on the PIVKA's. The normal blood coagulation factor VII [9001-25-6], factor IX,

and factor X were completely absorbed onto Al(OH)3, whereas 40% of blood coagulation factor II [9001-26-7] activity remained in the blood. In cows treated with phenprocoumon [435-97-2] (600 mg the first day and 200 mg/day, thereafter), plasma factor X activity was decreased, which resulted in the appearance of PIVKA-X two-dimensional immunoelectrophoresis in the presence of Ca; the presence of both factor X and PIVKA-X after anticoagulant **treatment** was also demonstrated. The existence of PIVKA-II and PIVKA-IX were also demonstrated by this method. Studies with PIVKA-X indicated that its active site was intact when compared to factor X, but that there was in addition to or as a consequence of the lack of Ca binding sites, another defect, resulting in a lower rate of activation of prothrombin by PIVKA-X.

ANSWER 20 OF 20 INVESTEXT COPYRIGHT 2004 TFS on STN 95:465942 INVESTEXT(tm) REPORT NUMBER:1594142 ANPGNO PAGE 3 OF 35 DN 1594142 ΤI COR Therapeutics - Company Report Lenstra, R., et al ΑU SMITH BARNEY; NEW YORK (STATE OF) CS CSR MID-ATLANTIC/MIDDLE ATLANTIC REGION; UNITED STATES OF AMERICA; NORTH AMERICA CSTY Financial center investment bank-broker 12 May 1995 DTCOMPANY REPORT FSText Page; COMPANY REPORT WC 414

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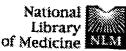
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